Camera Reference Guide

BOSCH
Invented for life

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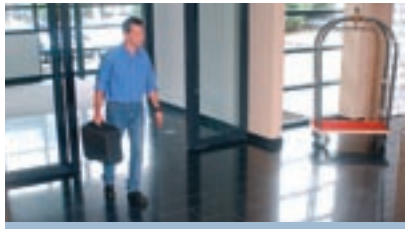

The camera is critical for every application

Regardless of the quality or capability of the CCTV system you use, the quality of the image you view depends heavily on the quality of the camera. The Bosch camera range offers outstanding performance in every class – from the stylish indoor FlexiDomes to very high performance Dinion^{XF} cameras for the most demanding situations.

Introducing Dinion

This guide also introduces the new Hybrid Dinion and Dinion^{XF} IP cameras, which offer benefits like analog and Ethernet outputs. Dinion cameras are also available ready assembled as factory-configured outdoor and indoor assemblies.

Whatever your application, there's a Bosch camera to match it

To help you make the best choice from the Bosch range of cameras, this guide summarizes the features and benefits, and gives clear reasons for choosing each family for virtually all applications you may encounter.
A selection table is shown on page 4.

Committed to quality

Bosch is a major player in security and observation systems, so you can be confident that the cameras are made to the highest quality standards. The three-year warranty and a free advance exchange program ensure that if problems do occur, a solution is quickly found.

Safe time and money with Bilinx

Bilinx is the newest CCTV technology innovation from Bosch. With Bilinx, technicians can check status, change camera settings, control PTZ, and even update firmware from virtually anywhere along the video cable.
More benefits and details are shown on page 23.

This table summarizes the Bosch CCTV camera range. Starting from your requirements or typical application area, it is easy to select the most appropriate model.

	FlexiDome I	FlexiDome II	FlexiDome^{XT}	Dinion st. res.	Dinion high res.	Dinion^{XF} 1/3”	Dinion^{XF} 1/2”	Dinion IP	Dinion^{XF} DN IP
	Color	**Color**	**Color**	**Color**	**Color**	**Color**	**Color**	**Color**	**Color**
Imager	1/4”	1/4”	1/4”	1/3”	1/3”	1/3”	1/2”	1/3”	1/3”
Horizontal Resolution	330	470	470	330	480	480	480	540	540
Sensitivity 50 IRE (Lux)	4.5	4.5	2	0.39	0.65/0.26	0.59/0.24	0.35/0.14	0.65	0.59
Lens wizard	NA	NA	NA	yes	yes	yes	yes	yes	yes
Integral Lens	2.1, 3 or 6mm	2.1, 3 or 6mm	2.8 - 6mm	NA	NA	NA	NA		
Signal-to-Noise	>46dB	>48dB	>48dB	50dB	50dB	50dB	50dB	50dB	50dB
Dust/water protection	IP43	IP43	IP66	NA	NA	NA	NA	NA	NA
Impact protection	NA	NA	≥50 joules	NA	NA	NA	NA	NA	NA
Supply Voltage	12-28VAC/DC	12-28VAC/DC	12-28VAC/DC	12-28VAC/DC	12-28VAC/DC	12-28VAC/DC	12-28VAC/DC	12 VDC, 24 VDC	12 VDC, 24 VDC
85-265 VAC Mains.				85-265 VAC	85-265 VAC	85-265 VAC	85-265 VAC	PoE	PoE
Backlight Compensation	On / Off	On / Off	On / Off	On / Off	On / Off	Area programmable	Area programmable	Yes	Area programmable
Synchronisation	LL/X-tal	LL/X-tal	LL/X-tal	LL / X-tal	LL / X-tal	LL / X-tal Gen. Code	LL / X-tal Gen. Code	LL / X-tal	LL / X-tal
NightSense					yes	yes	yes		
EDR						yes	yes	-	yes
Day/night IR switch						yes*1	yes*1	-	yes
Video Motion Detection				yes*3	yes*3	yes	yes	yes	4 zone
15 bit processing						yes	yes		yes
AutoBlack				yes	yes	yes	yes	yes	yes
Cable compensation						yes	yes	-	-
3 operating modes						yes	yes		
OSD menu				yes	yes	yes	yes	Lens & IP config	Lens & IP config
Remote set-up				yes*2	yes*2	yes*2	yes*2	html	html
Compression								MPEG4, MJPEG	MPEG4, MJPEG
Images per second (max)								25 @ 4CIF	25 @ 4CIF
Stream								3	3

*1 = optional *2 = needs configuration software

*3 = only remotely via configuration software

- Compact fixed cameras in a stylish dome.
- Excellent picture clarity with true color reproduction.
- Lightly-tinted dome masks camera with minimum light loss.
- Choice of integral standard or wide-angled lenses.
- Easy mounting on ceiling or wall.

Why select FlexiDome cameras?

- Performance – Regardless of lighting conditions, FlexiDomes provide unmatched picture clarity. Optimum contrast and color reproduction are achieved with an advanced digital signal processor (DSP), which includes backlight compensation for optimum contrast, a wide dynamic range and other image enhancing features.
- Active deterrent – The presence of the dome 'announces' active surveillance (as deterrent), but the camera itself is hidden behind a lightly tinted dome. The camera can be discreetly pointed towards sensitive areas without being visible to potential offenders.
- Stylish innovation – The combination of stylish design, advanced camera technology and ease of installation provides the optimum surveillance solution for a wide range of indoor security monitoring applications.

When should you use FlexiDome cameras?

- Indoor applications.
- Standard lighting situations.
- Where the viewing direction needs to be concealed.
- Where discrete observation is desirable.

Typical applications

Entrances lobbies and reception areas, cash desks and checkouts.

FlexiDome type number overview

	Standard Resolution			High Resolution		
TV Standard	**Super Wide 2.1 mm**	**Wide Angle 3 mm**	**Standard 6 mm**	**Super Wide 2.1 mm**	**Wide Angle 3 mm**	**Standard 6 mm**
PAL (Color)	LTC1411/10	LTC1412/10	LTC1413/10	LTC1421/10	LTC1422/10	LTC1423/10
NTSC (Color)	LTC1411/20	LTC1412/20	LTC1413/20	LTC1421/20	LTC1422/20	LTC1423/20
CCIR (B/W)	LTC1311/10	LTC1312/10	LTC1313/10	LTC1321/10	LTC1322/10	LTC1323/10
EIA (B/W)	LTC1311/20	LTC1312/20	LTC1313/20	LTC1321/20	LTC1322/20	LTC1323/20

- Fully featured cameras in high-security dome.
- Vandal-resistant and sealed for outdoor use.
- Ceiling/wall mounting configurations.
- High resolution models are available.

Why select FlexiDome[XT] cameras?

- High-level protection – Tough cast aluminium housing and polycarbonate dome protect the camera module from physical attack, IP66 rating ensures the camera is protected from water and dust outdoors or in dirty environments.
- Choice – With a choice of fixed or Varifocal lenses and monochrome or color camera there is a FlexiDome[XT] camera for every situation
- Convenience – An 'all-in-one' package ready for installation.

When should you use FlexiDome[XT] cameras?

- Indoor and outdoor applications.
- Vulnerable locations.
- Where discreet observation is desirable.

Typical applications

Car parks, public areas, metro-, bus- and railway stations, and housing estates.

Selecting the right FlexiDome

FlexiDome I	FlexiDome II	FlexiDome[XT]
Standard protection	Standard protection	Impact proofing
Monochrome or color	Monochrome or color	Monochrome or color
Standard resolution	High resolution	High resolution
Fixed lens:	**Fixed lens:**	**Varifocal lens:**
2.1 mm super wide angle	2.1 mm super wide angle	2.8-6 mm standard lens
3 mm standard	3 mm standard	3-6 mm F 1.2 fast lens
6 mm telephoto	6 mm telephoto	4-9 mm telephoto lens

FlexiDome[XT] type number overview

	2.8–6mm	3–6mm	4-9mm/F1.4
TV Standard	**Varifocal Lens**	**Varifocal Lens**	**Varifocal Lens**
PAL (Color)	LTC 1461/10	LTC 1463/10	LTC 1464/10
NTSC (Color)	LTC 1461/20	LTC 1463/20	LTC 1464/20
CCIR (B/W)	LTC 1361/10		
EIA (B/W)	LTC 1461/20		

- Advanced Dinion digital video processing.
- NightSense sensitivity boost.
- Lens Wizard to optimize lens performance.
- Color and monochrome 1/3″ ccd models.
- Standard and high resolution models.
- High resolution model 540TVL.

Why select Dinion cameras?

- Perfect pictures – Dinion cameras include powerful features like ‘Backlight Compensation’ for easier subject recognition against doorways and windows, Auto Black to increase the visibility of details even in low-contrast situations like fog, and Auto Tracking white balance to ensure perfect color reproduction.
- Superb low-light performance – The superb sensitivity range of the Dinion cameras is further extended in the high resolution color version by Bosch NightSense, which makes use of the extra sensitivity of monochrome images.
- Optimal lens performance – Thanks to the unique Lens Wizard, it is possible to set the correct (back) focusing for a sharp picture under all lighting conditions – even when focusing the lens in bright light.
- Ease of installation – Perfect picture out of the box.
  No tools needed to install camera.

When should you use Dinion cameras?

- For indoor and outdoor applications.
- When a good quality conventional CCTV camera is required.
- When special lenses are required or existing lenses are to be used.
- In standard and low light situations.

Typical applications

Shops and stores, car parks, industrial and commercial buildings, fence and gate surveillance.

Dinion type number overview

	Standard Resolution		High Resolution	
TV Standard	**Low Voltage**	**Mains Voltage**	**Low Voltage**	**Mains Voltage**
PAL (Color)	LTC0435/10	LTC0435/50	LTC0455/10	LTC0455/50
NTSC (Color)	LTC0435/20	LTC0435/60	LTC0455/20	LTC0455/60
CCIR (B/W)	LTC0335/10	LTC0335/50	LTC0355/10	LTC0355/50
EIA (B/W)	LTC0335/20	LTC0335/60	LTC0355/20	LTC0355/60

- Pre-assembled units with camera, lens, bracket and housing.
- Based on the Dinion camera range.
- Choice of color and monochrome cameras.
- Standard and high resolution models available.
- Varifocal lenses allow field of view to be selected on-site.

Why select Bosch camera kits?

- State-of-the-art cameras – The Dinion color and monochrome cameras are optimized for superb picture quality, and are easy to set-up and configure. The Bosch Dinion video processing chip enables many image-enhancing features.
- Convenience – The completely assembled and tested outdoor camera comprises camera, lens, housing with sunshield and wall bracket, ready to connect and install. Also the lens is installed on the indoor camera and together with mounting bracket it is ready for installation.
- Optimized lens combinations – Both the indoor and outdoor assemblies varifocal lens covers wide-angle and standard views and are ideal for standard applications. The outdoor camera is also available with a longer-range varifocal lens for telelens applications. Outdoor cameras use lenses with DC Iris control to cater for the wide range of lighting conditions encountered outside.

When should you use Indoor and Outdoor camera kits?

- To minimize installation and set up costs.
- Outdoors and in dirty environments (outdoor assemblies).
- When a good quality conventional CCTV camera is required.
- In standard and low light situations.

Typical applications

Industrial complexes, car parks, roads and tunnels, building exteriors, open parking lots.

Camera assembly type number overview

		Standard Resolution		High Resolution	
Assembly Type	**TV Standard**	**2.8–10 mm**	**5–50 mm**	**2.8–10 mm**	**5–50 mm**
Indoor	Color	LTC0043/31	NA	LTC0045/31	NA
Camera	Black/White	LTC0033/31	NA	LTC0035/31	NA
Outdoor	Color	LTC0043/53B	LTC0043/57B	LTC0045/53B	LTC0045/57B
Camera	Black/White	LTC0033/53B	LTC0033/57B	LTC0035/53B	LTC0035/57B

- Color and monochrome 1/3″ and 1/2″ CCD models.
- Excellent image quality even in extreme lighting conditions.
- High sensitivity and dynamic range.
- Built-in video digital signal processor.
- Many automatic picture enhancement features.
- High resolution model 540TVL.

Why select Dinion[XF] cameras?

- Full dynamic range – Thanks to its powerful 15-bit video-processing chip, Dinion[XF] captures the full dynamic range of any scene in a single image, even under adverse conditions such as strong backlighting, bright highlights and deep shadows.
- Innovative technology – Dinion[XF] is the first camera series in the Bosch range to introduce 15-bit video processing. This innovative technology ensures you get all the details whatever the lighting conditions. The colors are vivid and color noise is minimized.
- Superior performance – Based on a giant step forward in video processing technology, the Dinion[XF] cameras offer far superior performance to cameras using conventional 10-bit technology.

When should you use Dinion[XF] cameras?

- When the optimum image quality is required, under the most difficult lighting conditions.
- In situations requiring the highest possible light sensitivity and dynamic range.
- When the ability to deal with rapidly changing conditions is required.

High-end camera type number overview

	Low Voltage		Mains Voltage	
TV Standard	**1/3″**	**1/2″**	**1/3″**	**1/2″**
PAL (Color)	LTC0485/10	LTC0610/10	LTC0485/50	LTC0610/50
NTSC (Color)	LTC0485/20	LTC0610/20	LTC0485/60	LTC0610/60
CCIR (B/W)	LTC0385/10	LTC0510/10	LTC0385/50	LTC0510/50
EIA (B/W)	LTC0385/20	LTC0510/20	LTC0385/60	LTC0510/60
PAL (Day/Night)	LTC0495/10	LTC0620/10	LTC0495/50	LTC0620/50
NTSC (Day/Night)	LTC0495/20	LTC0620/20	LTC0495/60	LTC0620/60

- Advanced Color CCD Network Camera.
- DVD-quality up to 25/30 IPS at 4CIF.
- Storage efficient tri-streaming: Dual MPEG-4 & JPEG simultaneously.
- Power over Ethernet (IEEE 802.3af compliant).
- Hybrid IP camera with analog and Ethernet outputs.

Why select Dinion cameras?

- MPEG4 video encoding – MPEG-4 encoder creates high-quality streaming video at low bit rates. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.
- Tri-streaming Video – Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs.
- Ease of installation – Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0455. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP. The Lens Wizard automatically detects the lens type and helps focus the lens to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

When should you use Dinion IP cameras?

- When you need to build a network based video surveillance system.
- When image quality under all conditions is important.
- When you need simultaneous recording and live viewing.

IP camera type number overview

TV Standard	1/3″
PAL (Color)	NWC-0455-10P
NTSC (Color)	NWC-0455-20P

- Advanced Day/Night camera with mechanically switching IR filter.
- 15-bit DSP technology with XF-dynamic extended dynamic range.
- DVD-quality up to 25/30 IPS at 4CIF.
- Storage efficient tri-streaming : Dual MPEG-4 & JPEG simultaneously.
- Power over Ethernet (IEEE 802.3af compliant).
- Hybrid IP camera with analog and Ethernet outputs.

Why select Dinion[XF] cameras?

- Innovative technology – In Day/Night Mode, the NWC-0495 provides enhanced night viewing by increasing the IR sensitivity. The IR filter can switch automatically from color to monochrome by either sensing the illumination level or via the alarm input. The highly accurate 15-bit digital signal is automatically processed to reveal every detail of the image in both the high-light and low-light areas of the scene simultaneously. The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds.
- MPEG4 video encoding – MPEG-4 encoder creates high-quality streaming video at low bit rates. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.
- Tri-streaming Video – Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs.
- Ease of installation – Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0495. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP. The Lens Wizard automatically detects the lens type and helps focus the lens to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

When should you use Dinion[XF] Day/Night IP cameras?

- When the ability to deal with rapidly changing conditions is required.
- When high quality images over an IP network are required.
- Where images should be recorded or support live viewing.
- When day/night cameras are needed.

IP camera type number overview

TV Standard	1/3″
PAL (Color)	NWC-0495-10P
NTSC (Color)	NWC-0495-20P

Cameras

Fixed cameras				
	LTC0335	**LTC0355**	**LTC0435**	**LTC0455**
Camera type	Mono Std Res	Mono High Res	Col Std res	Col High Res
Sensor size	1/3″	1/3″	1/3″	1/3″
Sensitivity (Lux)	0.12	0.09	0.39	0.65
NightSense mode				0.26
Resolution (TVL)	380	570	330	540
Lens type	C/CS	C/CS	C/CS	C/CS
Power supply	/10 12Vdc, 24 Vac /50 230 Vac	/10 12Vdc, 24 Vac /50 230 Vac	/10 12Vdc, 24 Vac /50 230 Vac	/10 12Vdc, 24 Vac /50 230 Vac
Dimensions	58x66x122	58x66x122	58x66x122	58x66x122

Dinion[XF]				
	LTC0385	**LTC0510**	**LTC0485**	**LTC0610**
Camera type	Mono High Res	Mono High Res	Col Std res	Col Std res
Sensor size	1/3″	1/2″	1/3″	1/2″
Sensitivity (Lux)	0.046	0.032	0.59	0.35
NightSense mode			0.24	0.14
Resolution (TVL)	570	570	540	540
Lens type	C/CS	C/CS	C/CS	C/CS
Power supply	12Vdc, 24 Vac/230 Vac	12Vdc, 24 Vac/230 Vac	12Vdc, 24 Vac/230 Vac	12Vdc, 24 Vac/230 Vac

Dinion IP cameras		
	NWC-0455	**NWC-0495**
Camera type	Col High Res	Day/Night High Res XF dynamic
Sensor size	1/3″	1/3″
Sensitivity (Lux)	0.65	0.59
Resolution (TVL)	540	540
Day/Night	NA	Yes
NightSense mode	Yes	NA
Video standards	MPEG4-MJPEG	MPEG4-MJPEG

FlexiDome I & II				
	LTC131x/10	**LTC132x/10**	**LTC141x/10**	**LTC142x/10**
Camera type	Mono Std Res	Mono High Res	Col Std res	Col High Res
Sensor size	1/4″	1/4″	1/4″	1/4″
Sensitivity (Lux)	0.5	0.5	4.5	4.5
Resolution (TVL)	380	570	330	470
Lens type	LTC1312: 3mm F2.0 LTC1313: 6mm F2.0	LTC1322: 3mm F2.0 LTC1323: 6mm F2.0	LTC1412: 3mm F2.0 LTC1413: 6mm F2.0	LTC1422: 3mm F2.0 LTC1423: 6mm F2.0
Power supply	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac
Dimensions	Ø 155 x 77	Ø 155 x 77	Ø 155 x 77	Ø 155 x 77

FlexiDome[XT]				
	LTC1361	**LTC1461**	**LTC1463**	**LTC1464**
Camera type	Mono High Res	Col High res	Col High res	Col High res
Sensor size	1/4″	1/4″	1/4″	1/4″
Sensitivity (Lux)	0.2	2	1.5	2
Resolution (TVL)	570	470	470	470
Lens type	2.6-6 mm	2.6-6 mm	3-6mm/F1.2	4-9mm/F1.4
Power supply	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac
Dimensions	Ø 115 x 77	Ø 115 x 77	Ø 115 x 77	Ø 115 x 77

Comparison table

Camera Assemblies

Indoor assemblies				
	LTC0033/31	**LTC0035/31**	**LTC0043/31**	**LTC0045/31**
Camera	LTC0335/50	LTC0355/50	LTC0435/50	LTC0455/50
Sensor size	1/3″	1/3″	1/3″	1/3″
Sensitivity (Lux)	0.16	0.12	0.53	0.65
NightSense mode				0.26
Resolution (TVL)	380	570	330	480
Lens	Varifocal 2.8 - 10	Varifocal 2.8 - 10	Varifocal 2.8 - 10	Varifocal 2.8 - 10
Power supply	230 Vac	230 Vac	230 Vac	230 Vac
Dimensions	58x66x177	58x66x177	58x66x177	58x66x177

Outdoor assemblies in IP66 housing				
	LTC0033/5xB	**LTC0035/5xB**	**LTC0043/5xB**	**LTC0045/5xB**
Camera	LTC0335/50	LTC0355/50	LTC0435/50	LTC0455/50
Sensor size	1/3″	1/3″	1/3″	1/3″
Sensitivity (Lux)	0.16	0.12	0.53	0.65
NightSense mode				0.26
Resolution (TVL)	380	570	330	480
Lens	/53 Varif. 2.8–12 /57 Varif. 5–50	/53 Varif. 2.8–12 /57 Varif. 5–50	/53 Varif. 2.8–10 /57 Varif. 5–50	/53 Varif. 2.8–10 /57 Varif. 5–50
Power supply	230 Vac	230 Vac	230 Vac	230 Vac
Dimensions (W x H x L)	148 x 130 x 480	148 x 130 x 480	148 x 130 x 480	148 x 130 x 480

Bilinx bi-directional communication technology

- Control AutoDome PTZ including pre-positions.
- Adjust camera and dome configuration settings.
- Cut and paste settings to multiple cameras remotely.
- Receive alarm signals and motion detection.
- Lower installation costs.
- Plug and play – no need to address each camera.
- Upgrade existing single cable installations easily.
- Update camera firmware.

Remote programming – the convenience of Bilinx

Bilinx is the newest CCTV technology innovation from Bosch. This bi-directional communication capability is embedded in the video signal of Bosch Dinion cameras. With Bilinx, technicians can check status, change camera settings of analogue Bosch Dinion cameras and even update firmware from virtually anywhere along the video cable.

Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

15-Bit technology
A method of more accurate and sophisticated video processing.

Angle of View
The measure of the area within the scene that is visible. The larger the focal length, the smaller the angle of view. The smaller the focal length, the wider the angle of view.

Aperture
The size of the opening in the iris controlling the amount of light reaching the sensor. The larger the F-Stop number the less light.

Automatic Gain Control
The electronics that regulates the gain or amplification of the signal.

Auto Iris Lens
A lens that automatically opens or closes the aperture in order to maintain proper light levels. With direct drive or DC Iris lenses the camera controls the size of the aperture. Video iris lenses have the control circuits built into the lens.

AutoBlack
Auto Black Compensation is a technique of boosting the video signal level to produce a full amplitude video signal even when the scene contrast is less than the full range. The darkest part of the signal is set to black and the lightest part to white, thus increasing the contrast.

Auto White Balance
A feature that allows a color camera to automatically adjust its output color to give a natural colour independent of the lighting used.

Attenuation
A signal loss or decrease.

Back Focus
The distance between the image plane and the rear most portion of the lens.

Back Light Compensation
BLC selectively amplifies parts of the image to compensate for large contrast differences when part of the image is very brightly lit e.g. person in sunlit doorway.

Cable Compensation
prevents image quality degradation caused by signal losses from long cable lengths.

“C” and “CS” Mount
Standard CCTV lens mount. “CS” mounts normally used and have a flange to sensor distance of 12.5mm. Older “C” mount lenses, normally for larger format sensors, can still be found with a flange distance of 17.5 mm. Camera back focus adjustment needs to be able to handle either type.

Charged Coupled Device (CCD)
The most common type of solid state image sensor used in CCTV cameras. The sensor converts light energy to electrical signals.

Coaxial Cable
The type of cable generally used for TV signals where one conductor is arranged around the other to provided a shield, and reduce signal loss.

Composite Video
A video signal that combines the picture signal, synchronizing pulses and vertical and horizontal blanking.

Crosstalk
An unwanted signal from different cable or channel that interferes with the video signal.

Day/Night (IR sensitive)
Color cameras have a built in infrared filter to improve color reproduction. In low light situations in a Day/Night camera the IR-cut filter in front of the color sensor is removed restoring the IR sensitivity of the camera.

DC Iris Lens
See Auto Iris Lens.

Depth of Field
The distance from the nearest to furthest point which appears in focus. The smaller the aperture used the greater the depth of field.

Dynamic Noise Reduction (DNR)
Digital Video processing that measures the noise in the picture and automatically reduces it appropriately.

Electronic Iris
EI automatically adjusts the camera’s shutter speed to account for lighting changes. In some cases eliminating the need for an auto iris lens. Sometimes referred to as AES.

F-Number
The standard measure of the Lens aperture, the iris diameter divided by the focal length of the lens. The lower the maximum aperture, the more light that passes throuth the lens, also known as a faster lens.

F-Stop
See F-Number.

Focal Length
The distance from the optical center of the lens to the image of an object located at an infinite distance from the lens.

Footcandle
See sensitivity.

Image Size
Lenses are designed to produce an image to fit the sensor being used. Sensor sizes are related to the older tube diameters, and normally quoted in inches, 1/2″, 1/3″, 1/4″ etc. The sensor diagonal is dimension used.

Infra-red Illumination
Electromagnetic radiation with longer wavelength than in the visible spectrum. Illuminators can be lamps with appropriate filters, LED’s or IR laser based. The longer the wavelength the less sensitive the CCD sensor.

IP-rating
A two-digit number is used to provide an IP Rating to a piece of electronic equipment or to an enclosure for electronic equipment.

The **first digit** represents protection against ingress of solid objects(dust).

The **second digit** represents protection against ingress of liquids.

IPS
An acronym for Images Per Second. This is a measurement of the rate that pictures are displayed to create a video stream.

Joule
One joule is defined as the amount of energy exerted when a force of one Newton is applied over a displacement of one meter.

Lens wizard
To set the (back) focus correctly the lens iris should be fully open to give a narrow depth of field. The lens wizard drives the A/I lens fully open while maintaining correct video level using the shutter.

Level Control
The adjustment of the video level to give the desired brightness level. This can be elecronic or by means of the iris control.

Line Lock
Synchronises AC powered cameras to the line voltage frequency.

Lux
See sensitivity.

Manual Iris Lens
A lens where the iris is manually adjusted to open or close the aperture.

Monochrome
A black and white signal or picture.

MJPEG
Motion JPEG (M-JPEG) is a video codec where each video field is separately compressed into a JPEG image

Mode switching
Possibility to program three different parameter sets in a camera. Switching from one mode to another can be manually or automatically.

MPEG-4
MPEG-4 is a graphics and video compression algorithm standard that is based on MPEG-1, MPEG-2 and Apple QuickTime technology. MPEG-4 files are smaller than JPEG or QuickTime files , so they are designed to transmit video over a narrower bandwidth.

Night Sense
NightSense is a method of boosting the sensitivity of high-resolution Dinion color cameras by 9dB (a factor of 3!) by combining the signals of the color image in a single monochrome picture.

Pixel
The microscopic photosensitive elements of a CCD image sensor.

Power over Ethernet
A means for delivering power to a remote device using the same cable lines used to deliver Ethernet over the Ethernet Category 5 or higher data cabling.

Remote set-up
Configuring the camera from a distance e.g. via the coax cable.

Resolution
The measure of the fine detail that can be seen in an image. In a CCD camera this is determined.

Saturation
The amplitude of the chrominance signal affecting the vividness of a color.

Sens-up
Sens-up is used to increase sensitivity by integrating the signal from a number of consecutive frames to reduce noise.

Sensitivity
A measure of the incident light required to give a standard video signal. It's value is given in lux or foot-candles.

Signal to Noise Ratio
The ratio between a useful video signal and unwanted noise. It is measured in dB.

Slow shutter
An alternative.

Spot Filter
A graduated filter in a lens used in a lens to increase the f-stop range of the lens.

Synchronization
Electronic pulses that are inserted into the video signal in order to assemble the picture correctly.

Vari focal Lens
A lens where the focal length to be used can be set manually.

Tri-streaming
Generates two separate MPEG-4 video streams and one MJPEG stream simultaneously. This advanced tristreaming capability enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs.

Video Motion Detector
A device that analyses the video signal from a camera to determine if there is movement within the picture.

Video Iris Lens
See auto-iris lens.

XF Dynamic
Extends the dynamic reange of the Dinnion^{XF} cameras to produce exceptional images even in high contrast lighting conditions.

Zoom Lens
A lens with the ability to adjust the focal length from wide angle to telephoto with minimum focus shift.

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